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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/660,492	09/12/2003	Kenneth K. Li	2138-295	6352
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6449	7590	03/15/2005
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ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER


ROBINSON, MARK A

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/660,492	Applicant(s) LI, KENNETH K. 	
	Examiner Mark A. Robinson	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/17/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/20/04 has been entered.

Information Disclosure Statement

2. The information disclosure statement filed 9/12/03 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not list the references on a new, **non-initialed** PTO-1449 or equivalent form. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the

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requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Applicant has argued that the office has no authority to require a new, non-initialed copy of the IDS (applicant submitted previously initialed photocopies of PTO-1449 and PTO-892 from the parent application).

Applicant should refer to MPEP 609 III(D) which requires "a column for the examiner's initials to indicate that the information was considered" as part of the requirements for a proper PTO-1449 or equivalent. It can be reasonably implied from this section that this column should not already contain the examiner's initials since this would create confusion as to if and when the references were in fact considered. If applicant wishes the references cited in the IDS of 9/12/03 to be printed on the face of a patent issuing from the instant application, he should submit these references on a non-initialed and otherwise proper copy of PTO-1449. Any further questions regarding this issue may be directed to either the examiner or his supervisor at the numbers listed below.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 7-9 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Li (US 5707131).

Li shows in fig. 2 an optical device and method therefore including a target(I), first(M1) and second(M2) concave opposing reflectors each having first and second focal points (S1,S2;S2,I), wherein the reflectors are about the same size and shape, are either ellipsoids or toroids of revolution (col. 1 line 33), and have diameters which are greater than the distance between the source and target (see also figs. 4 and 5), further wherein the system includes a retro-reflector (see fig. 4) on the opposite side of the source as the first reflector. Note that the reflectors share a common focal point(S2). Further, reflectors M1 and M2 are taught to be ellipsoids. Thus, the focal points (S1,S2;S2,I) are conjugate points which serve to define the optical axis of each reflector, and fig. 2 clearly

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shows the optical axis of each reflector (i.e. the claimed first and second optical axis) to be collinear (along line y).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 5707131).

Regarding claims 4 and 6, Li does not specifically teach spherical or additional non-ellipsoidal portions for the reflectors. However, Li suggests use of any concave shape in col. 3 lines 3-4 and reflectors having each of these shapes are well known. It would have been obvious to the ordinarily skilled artisan at the time of invention to include such reflector shapes in Li's optical system in order to provide for such features as correction of particular types of aberrations (e.g. coma) or allowance for the spatial constraints of the particular optical arrangement being utilized, such

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considerations being routinely contemplated by those of ordinary skill in the art.

Regarding claim 10, although not taught by Li, image sources are well known and commonly used in mirror projection systems. It would have been obvious to the ordinarily skilled artisan at the time of invention to illuminate an image source with Li's optical system in order to enable projection of the image.

Terminal Disclaimer

7. The terminal disclaimer filed on 11/16/04 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6634759 has been reviewed and is accepted. The terminal disclaimer has been recorded. It should be noted that the double patenting rejection is withdrawn due to the accepted terminal disclaimer and not due to applicant's remarks.

Response to Arguments

8. Applicant's arguments filed 11/16/04 have been fully considered but they are not persuasive.

Applicant has argued that line y shown in fig. 2 of Li is not a common optical axis of the two reflectors, and thus Li

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does not show the claimed arrangement of first and second focal points of the respective reflectors to lie on respective first and second optical axes (which are collinear).

However, as noted above in the rejection, the focal points of an ellipsoidal reflector are conjugate points which define the optical axis. Thus, optical axes for each of Li's mirrors M1 and M2 may be defined by the illustrated focal points S1,S2;S2,I. These optical axes of mirrors M1 and M2 are clearly shown in fig. 2 of Li to be collinear, satisfying the claimed limitation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (571) 272-2319.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MR

3/8/05


MARK A. ROBINSON
PRIMARY EXAMINER